

**UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF ILLINOIS  
EASTERN DIVISION**

DSM DESOTECH INC.,	)	
	)	
Plaintiff,	)	Civil Case No. 08 C 1531
	)	
v.	)	Judge Lefkow
	)	Magistrate Judge Keys
3D SYSTEMS CORPORATION and	)	
3D SYSTEMS, INC.,	)	
	)	
Defendants.	)	

**AMENDED COMPLAINT**

Plaintiff DSM Desotech Inc. (“Desotech”), by and through its attorneys, Mayer Brown LLP and Leydig, Voit & Mayer, Ltd., for its Amended Complaint against 3D Systems Corporation and 3D Systems, Inc. (collectively “3DS” unless otherwise indicated), hereby alleges, on personal knowledge as to allegations concerning itself and upon information and belief as to all other allegations, as follows:

**NATURE OF THE ACTION**

1. This case arises out of 3DS’s unlawful and anticompetitive conduct in the market for large-frame Stereolithography (“SL”) machines and in the separate market for resins used in those machines as well as its willful infringement, inducement of infringement, and contributory infringement of two of Desotech’s patents related to 3DS’s SL equipment, including its large-frame SL machines.

*3DS’s Anticompetitive Behavior*

2. As described more fully below, SL is a process by which a physical object, typically a model or prototype, is created from a computerized machine that uses a laser to

solidify liquid resin one layer at a time, in an additive fashion, until the physical object is eventually formed from the liquid resin. Such prototyping is an essential step in bringing newly designed products from the conceptual stage to actual production, thereby satisfying the demands of increasingly sophisticated consumers and introducing a wide range of new products into everyday life.

3. Resins used in large-frame SL machines are highly innovative, value-added products. Substantial research and development is devoted to creating newer and improved resins. Because the ultimate end product created from the SL process – the model or prototype – is dependent upon the quality and technical specifications of the resin used, there is a strong incentive for resin suppliers to develop a broad array of new resins with improved qualities. Customers have long viewed Desotech as the leader in the SL resin market, largely due to its history of providing innovative and high-performance resins, among other factors.

4. 3DS dominates the market for large-frame SL machines in the United States. Pursuant to an antitrust consent decree entered into in 2002 by 3D Systems Corporation with the United States Department of Justice as a result of 3DS's SL machine monopoly, Sony provided large-frame SL machines to the U.S. market from 2004 to 2006, but no longer does so. Currently, there is no large-frame SL machine manufacturer in the United States other than 3DS.

5. Not content with its monopoly in the market for large-frame SL *machines*, 3DS has engaged in a series of deliberate, anticompetitive acts aimed at substantially foreclosing competition in the market for SL *resins* used in those machines. In 2007, 3DS began conditioning the sale and maintenance of its large-frame SL machines on the purchase of its own SL resins for use in those machines. Since that time, 3DS has expressly refused to sell and service its most recent large-frame SL machine – the Viper™ Pro SLA® System – unless

customers exclusively purchase resin from 3DS. 3DS has also informed customers that only “licensed” or “approved” resins – 3DS’s own resins or those it distributes – can be used in its Viper™ Pro SLA® System, despite the fact that 3DS has never informed customers or competing resin suppliers about such an approval process or the standards used in such a process. By tying large-frame SL equipment and SL resin, 3DS is attempting to foreclose competition in the separate market for SL resins – a market previously characterized by robust competition and comprised of three main suppliers, and several smaller, niche resin suppliers.

6. In addition to this unlawful tying, 3DS’s contracting and licensing practices, described more fully below, constitute an unreasonable restraint of trade and also violate state law.

7. 3DS is also attempting to abuse its monopoly position in large-frame SL machines in an attempt to monopolize the separate market for SL resins used in those machines, which is itself prohibited under antitrust law.

8. Moreover, 3DS has made false, misleading, and disparaging statements about the quality and fitness of use of Desotech’s resins to customers, in violation of state law, and has improperly interfered with prospective economic advantages reasonably anticipated by Desotech.

9. The end goal of 3DS’s anticompetitive conduct is clear: to foreclose competition in the market for resins used in large-frame SL machines. Given 3DS’s current monopoly position in the large-frame SL machine market and its present and growing market share of over 50% in the large-frame SL resin market, this goal is achievable if 3DS’s anticompetitive behavior is not stopped. The substantial amount of research and development required to develop high performance and quality resins, the lack of viable substitutes, and the poor track

record of new entrants in the large-frame SL resin market further support the conclusion that 3DS's anticompetitive goal of substantial foreclosure could become reality.

10. As a result of this substantial foreclosure of competition in the resin market for large-frame SL machines, competition in the resin supply market will no longer exist. As the sole supplier of resin for large-frame SL machines, 3DS will then be able to raise prices and restrict output, thereby harming overall consumer welfare in the market for SL resin.

#### *3DS's Patent Infringement*

11. In addition to the anticompetitive conduct described above, 3DS infringes Desotech's SL equipment patents covering the recoating technology used in 3DS's SL equipment, including 3DS's large-frame SL machines.

12. As detailed below, 3DS's SL machines are used to create solid three-dimensional products from liquid plastic resin. 3DS's SL machines use a vat of liquid resin in which a moving platform is positioned. The three-dimensional products are formed on the moving platform by a series of sequential steps. The moving platform is positioned below the surface of the liquid resin in the vat. A moving blade system containing a reservoir of the liquid resin then passes above the platform applying resin as necessary to maintain a uniform surface of resin in the vat above the platform. Then, laser light is applied to the surface of the liquid resin at pre-selected points causing the resin at those points to solidify. The moving platform is lowered such that the newly solidified resin is now below the surface of the liquid resin in the vat. The blade system again passes over the platform providing a uniform liquid resin surface and the process thereafter continues sequentially through these steps until the product is completed. Once formation of the product is completed, the moving platform raises above the surface of the liquid resin remaining in the vat and the completed product can be removed from the platform.

3DS has manufactured and sold a number of SL machines that operate in this manner that infringe patents owned by Desotech with full knowledge of the asserted Desotech patents.

### **PARTIES**

13. Desotech is a Delaware corporation with a principal place of business at 1122 St. Charles Street, Elgin, Illinois, 60120.

14. 3D Systems Corporation is a Delaware corporation with a principal place of business at 333 Three D Systems Circle, Rock Hill, South Carolina, 29730. 3D Systems, Inc. is a California corporation with a principal place of business at 333 Three D Systems Circle, Rock Hill, South Carolina, 29730. 3D Systems Corporation, through its subsidiaries, wholly owns 3D Systems, Inc. In the United States, 3D Systems Corporation operates through 3D Systems, Inc. Both 3D Systems Corporation and 3D Systems, Inc. participate in the actions alleged in this Amended Complaint. Unless otherwise indicated, 3D Systems Corporation and 3D Systems, Inc. are referred to herein collectively as “3DS,” as noted in the opening paragraph of this Amended Complaint.

15. Both Desotech and 3DS transact business in interstate commerce and the activities alleged herein have a substantial effect on interstate commerce.

### **JURISDICTION & VENUE**

16. This Court has subject matter jurisdiction over Desotech’s claims under §§ 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1, 2, and §§ 3 and 4 of the Clayton Act, 15 U.S.C. §§ 14, 15 pursuant to 28 U.S.C. §§ 1331 and 1337. This Court has original and exclusive jurisdiction over the subject matter of the patent infringement claim pursuant to 28 U.S.C. § 1338(a).

17. This Court has supplemental jurisdiction over Desotech's state law claims pursuant to 28 U.S.C. § 1367 because those claims are so related to the federal question claims in this action that they form part of the same case or controversy.

18. Venue in this Court is proper for the antitrust, deceptive trade practice, and tort claims pursuant to 28 U.S.C. §§ 1391(b) and (c), and 15 U.S.C. § 22. Venue is proper in this Court for the patent infringement claim under 28 U.S.C. §§ 1391(c) and 1400.

### **INDUSTRY BACKGROUND & RELEVANT MARKETS**

19. Rapid Prototyping/Manufacturing ("RP") is an industry in which a physical object is automatically created from a machine using solid freeform fabrication (*i.e.*, sequential delivery of energy and material in space to create a solid). Once an object's design or specifications are programmed into an RP machine, the machine's software transforms the design into virtual, horizontal cross-sections and then the machine physically creates the cross-sections in a serial, additive fashion until the final object is finished.

20. RP machines first became widely available in the late 1980s and were initially used to build prototypes and models.

21. SL is a distinct technology within the RP industry. As described in paragraph 12, SL is an additive fabrication process using liquid photopolymer – "resin" – and an Ultraviolet ("UV") laser – actinic light – to build an object one layer at a time. On each layer, a laser traces a cross-section pattern on the surface of the liquid resin. Exposure to the laser cures (*i.e.*, solidifies) the pattern traced on the resin, which is adhered to the layer below. Specifically, after a pattern has been traced, the platform on which it sits descends by a single layer of thickness and a resin-filled blade sweeps across the cross-section, recoating it with a new layer of resin, which is then again traced and cured by the UV laser. A complete, three-dimensional object is

eventually formed by this layer-by-layer process. After the object is formed, it is typically cleaned by immersion in a chemical bath and then further cured in a UV oven.

22. Although other RP technologies exist, they do not compete with large-frame SL machines, which are used to make large-scale parts and products that cannot technologically, economically, or quickly be made by the manufacture and assembly of smaller, constituent parts. For example, other RP technologies such as Laser Sintering (“LS”) or Fused Deposition Modeling (“FDM”) are not viable alternatives to large-frame SL machines. LS does not presently produce products of similar quality and FDM is neither fast nor cost effective on a large scale, as is demanded by most SL customers, particularly service bureaus (*i.e.*, firms hired by a company or individual – either on a regular or one-time basis – to build a product or prototype). Moreover, Digital Light Processing (“DLP”) machines and 3D printers do not match the substantial variety and performance (*e.g.*, clarity) of resin materials that can be used in the SL process. SL allows over forty resins to be used, thereby permitting a much broader range of end-products than can be produced under DLP or with 3D printers. Large-frame SL machines, therefore, provide the customer with the versatility to participate in multiple end uses and thereby create parts with a wide range of material characteristics and performance qualities. Such benefits could only be replicated by owning numerous other RP technology machines – an option that is neither cost-efficient nor practical for customers.

23. A large-frame SL machine typically includes a vat to store the resin, a built-in computer terminal (and software), a laser, and metal framing, among other components. It is approximately the size of a large entertainment center and has the following approximate dimensions: 75 in. (width) x 60 in. (depth) x 80 in. (height).

24. 3DS currently dominates the market for large-frame SL machines in the United States.

25. Although, as alleged in paragraph 4, Sony temporarily entered the large-frame SL machine market in the United States in 2004 pursuant to a mandatory patent license resulting from an antitrust consent decree 3D Systems Corporation entered into with the United States Department of Justice, Sony exited the United States market by 2006. The number of Sony manufactured large-frame SL machines currently in the United States market is trivial.

26. The two relevant product markets for this action are: 1) large-frame SL machines; and 2) resins used in those machines.

27. The relevant geographic market for this action is the United States.

28. Customers view SL machines and the resins used in those machines as two distinct products. Many resin purchasers/owners of large-frame SL machines currently buy resin from resin suppliers other than 3DS, the sole manufacturer of large-frame SL machines in the United States. As described below, resin suppliers compete vigorously for business by continually offering new, improved resins. Customers have long viewed Desotech as the industry leader in offering innovative, higher-performance resins allowing a broader array of end products to be created.

### **3DS's DOMINANCE OF THE LARGE-FRAME SL MACHINE MARKET**

29. 3DS has historically maintained a monopoly in and dominated the large-frame SL machine market in the United States. Even when Sony was in the market during the brief period from 2004-2006, its share of the market was trivial. 3DS is the only current manufacturer of large-frame SL machines in the United States.



30. 3DS's first large-frame SL machine – the SLA® 500 System – was sold around 1992. Almost six years later, around 1998, 3DS introduced another large-frame machine, the SLA® 5000 System (“SLA 5000”). In 1999, 3DS launched its SLA® 7000 System (“SLA 7000”).

*The Viper™ Pro SLA ® System*

31. In October 2004, 3DS introduced a new model large-frame SL machine: the Viper™ Pro SLA® System (“Viper Pro”). The Viper Pro was a large-frame version of 3DS's Viper™ machine, which is a small-frame machine that was touted as having improved accuracy and resolution.

32. 3DS's launch of the Viper Pro was consistent with its pattern of behavior when it introduced previous models of large-frame SL machines. For example, 3DS promoted regular upgrades containing features presented as technological innovations that did not work and were not demanded by customers. 3DS did not fully disclose to customers how it intended for those features to operate. As an example, 3DS never informed customers that the radio frequency identification (“RFID”) feature on the Viper Pro could be used to exclude competing resin suppliers. And 3DS has pushed out of circulation previous models that do not contain the new features.

33. Not only has 3DS followed this same pattern with the launch of the Viper Pro, but it has gone further by employing new Viper Pro features, such as the RFID feature, to prevent customers from using Desotech's Somos® (“Somos”) brand of resins even though there is no reason for, nor benefit to the customer in, making the features mandatory and using the features as a means to exclude competition, even for those purchasers who might actually desire the new features of the Viper Pro.

34. 3DS marketed the Viper Pro as being faster and more accurate than the SLA 7000, its previous large-frame SL machine. While some customers have noticed increased resolution from the SLA 7000, other customers have encountered severe Viper Pro machine quality problems.

35. The new features on the Viper Pro often do not work as promised. For example, 3DS marketed the Viper Pro's Resin Delivery Module ("RDM"), which feeds resin into the machine during the manufacturing process, as a "new and innovative" feature. In practice, however, for many customers, the RDM has not achieved the operational levels that 3DS promised. Customers have complained about the auto-refill feature of the RDM working only intermittently, vats of resin leaking onto the floor, the failure of the RDM to heat the resin consistently, and the RDM's inability to circulate the resin to achieve the uniform viscosity that was promised. Customers have also complained about the reliability of the laser used in the Viper Pro, which is a part of the machine that typically should encounter very few problems over the life of the machine. These severe quality problems, among others, prevent the Viper Pro from operating "lights-out, 24/7" as marketed by 3DS.

36. Substantial barriers to entry exist for potential new manufacturers of large-frame SL machines. The design and manufacture of large-frame SL machines not only requires significant research and development, but also extensive capital investment into developing manufacturing capacity, establishing distribution channels, and hiring a trained sales force, among other items.

37. A key feature of the Viper Pro that 3DS emphasized in its initial marketing campaign for the machine is its RFID material feed system, as previously mentioned. The built-in software that operates the Viper Pro has a feature that prevents the Viper Pro from functioning

if the RFID chip in the cap of the jug of resin is not activated or is not recognized by the software.

38. Currently, the Viper Pro works with resin supplied by Desotech. Indeed, many customers prefer to use Somos resins in their Viper Pro machines due to their high performance quality and Desotech's long history of providing new, innovative resins. For example, Desotech pioneered the development of clear resins that can be used to create see-through models and prototypes, such as WaterClear® 10120 in 2001 and WaterShed® 11120 in 2002.

39. 3DS recently began to activate the RFID feature on Viper Pro machines by having 3DS field engineers download a software update onto the machines. For those Viper Pro machines for which 3DS has not already activated the RFID feature via the software update, it has told its customers that it soon intends to do so.

40. Although many purchasers of Viper Pro machines realized that their machines had the capability for RFID when they purchased the machines, they were informed by 3DS only that the RFID feature would help improve the machines' performance quality, not that the RFID feature could be used as a method to exclude competing resin suppliers. Customers have informed Desotech that, upon purchasing their Viper Pro machines, they believed they could continue to use Somos resins with their Viper Pro after 3DS activated the RFID feature. Up until 3DS began activating the RFID feature, resin supplied by Desotech was fully compatible with the Viper Pro. Customers who used Somos resins in their Viper Pro machines did not experience any technical problems related to the resin. Nevertheless, 3DS is now using the RFID feature to foreclose competing resin suppliers.

41. Much of the customer migration to the Viper Pro is due not to natural customer demand for the machine or any new feature, but rather to pressure exerted by 3DS on customers

to purchase the more expensive Viper Pro, which includes the RFID feature. Notably, 3DS has discontinued manufacturing the SLA 5000 and SLA 7000, making the Viper Pro the only large-frame SL option in the U.S. market for new purchasers.

42. 3DS is also attempting to eliminate existing, older large-frame SL machines from the market. For example, 3DS reached an agreement with a leading SL maintenance contractor, National RP Support, Inc., to stop servicing those SLA 500 machines for which no contractual servicing obligation existed. In addition, 3DS no longer is selling new SLA 5000 and SLA 7000 machines and is removing existing large-frame SL machines from the market by offering substantial incentives to customers to trade-in those machines and purchase a Viper Pro. 3DS's goal is to replace older large-frame SL machines with Viper Pro machines, which contain the RFID feature that can exclude resins from competing resin suppliers.

43. Each customer who purchases a Viper Pro from 3DS enters into a purchase agreement with 3DS for the machine. The purchase agreement contains a clause requiring the customer not to modify or otherwise alter any of the software contained on the Viper Pro. Any customer modification of the software, including the RFID feature, voids the warranty.

44. As noted above, 3DS has begun activating the RFID feature and stated that it soon intends to activate the RFID feature for Viper Pro machines for which it has not already done so. 3DS has informed customers that any refusal to allow the 3DS field engineer to install the software update will void the customer's warranty on the machine.

45. As described more fully below, 3DS has also informed customers that any attempt by a customer to use resin without a 3DS-approved RFID chip will be futile as the Viper Pro's software will be inoperable and the machine will automatically shut down.

**SL RESIN MARKET AND THE  
RELATIONSHIP BETWEEN DESOTECH AND 3DS**

46. As indicated above, there are three main suppliers in the \$20 million resin market for large-frame SL machines in the United States. With annual sales of approximately \$7 million, Desotech accounts for 35% of the resin market for large-frame SL machines in the United States; 3DS's sales of \$10 million represent about 50%; Huntsman's sales of \$2 million represent about 10%; and the remaining \$1 million of sales of smaller, niche suppliers represent about 5% of the market. 3DS's market share has grown while it has engaged in its anticompetitive conduct.

47. The resin market for large-frame SL machines has been highly competitive. Suppliers vigorously compete for customers based on innovation, price, quality, and service, among other factors. Purchasers of SL resin often switch suppliers if they feel that their current supplier is failing to offer an innovative or competitively-priced product.

48. Viper Pro customers who have purchased resin from Desotech have expressly stated a preference for Somos resins, stating that Somos resins are of higher performance quality and work better than 3DS's own resins.

*The Parties' Distribution Agreement*

49. In 2004, Desotech and 3DS entered into a distribution agreement under which 3DS agreed to distribute Desotech's Somos resins.

50. Under the distribution agreement, 3DS actively began to sell Desotech's high-quality Somos resins to customers using the goodwill associated with the Somos brand as a key selling point. Once these sales were made and a relationship with the large-frame SL customer was established, however, 3DS began to push its own brand of resins on the customer, even if the customer wished to continue using Somos resins.

51. In December 2006, Desotech informed 3DS that it would not renew the distribution agreement with 3DS, due primarily to the fact that 3DS was no longer acting as a true distributor of Desotech's resins, but rather using the relationships with customers gained via the distribution agreement to push its own brand of resin – a position Desotech viewed as incompatible with the distribution agreement.

52. In January 2006, the parties attempted to resolve ongoing intellectual property litigation in Germany between the two companies by agreeing to a Memorandum of Understanding (“MOU”) involving the cross-licensing of certain intellectual property owned by each company. During the parties' negotiations of a definitive agreement based on the MOU, 3DS never identified the specific 3DS intellectual property that would be covered by the agreement and instead used the termination of the distribution agreement in December 2006 as an excuse effectively to terminate negotiations altogether. Once it became clear that a definitive agreement based on the MOU would not be finalized, 3DS began asserting, in May 2007, that Somos resins had to be “licensed” by 3DS for use in the Viper Pro and that 3DS's grant of such a license was contingent on the continuation of the distribution agreement. When Desotech, seeking to maintain access to Viper Pro customers, inquired with 3DS in November 2007 to review the specific intellectual property that 3DS believed would be subject to such a license and the potential royalty rate that 3DS desired, 3DS, consistent with its past behavior, never identified the precise intellectual property at issue or the royalty rate. Instead – and despite repeated requests from Desotech – 3DS made only vague references to broad categories of intellectual property discussed in earlier negotiations regarding the proposed definitive agreement that was to be based on the MOU and did not provide any details as to the royalty rate 3DS desired.

*3DS's Disparagement of Desotech's Products*

53. As mentioned above, beginning in May 2007, 3DS began claiming that only its own resins and certain Somos resins were "licensed" or "qualified" for use in the Viper Pro, none of which were the newer, more advanced Somos resins that customers repeatedly used and desired.

54. 3DS told customers that Desotech had not done its "due diligence" with respect to certain Somos resins and that those resins were of insufficient quality to run on 3DS's large-frame SL machines, notwithstanding the fact that many of those resins had been in the market for years, had been used by customers in large-frame SL machines without any quality problems, and 3DS itself had previously distributed some of the exact same resins under its distribution agreement with Desotech.

55. 3DS disparaged Desotech's Somos resins to numerous customers by informing them that the resins were no longer "licensed" or "qualified" despite the fact that neither Desotech nor any customers were aware of any licensing or qualification process in existence. When Brian Bauman, Technical Service and Product Manager at Desotech, contacted Steve Hanna, Director of SL Materials at 3DS, in the summer of 2007 seeking information as to any such licensing or qualification process, he received no reply.

**EXPRESS PATTERN**

56. Beginning in late 2007, 3DS informed Express Pattern Inc., a Desotech customer in Vernon Hills, Illinois, that Express Pattern would not be able to purchase Desotech's newer Somos resins for its Viper Pro and that it could only purchase the older Somos WaterShed® 11120 resin, claiming that the newer Somos resins that Express Pattern desired were not qualified and/or licensed for use on the Viper Pro. This is despite the fact that Express Pattern

specifically asked 3DS when it was deciding whether to purchase the Viper Pro if it could use Somos resins with the Viper Pro machine and was expressly told by 3DS that it could use any resins with the machine.

57. In January 2006, Express Pattern entered into a two-year resin purchase contract with Desotech.

58. Express Pattern has spent a substantial amount of money to develop the market for Desotech's latest Somos investment casting resin, ProtoCast™ AF 19120. Based on 3DS's stated intent to activate the RFID feature on Express Pattern's Viper Pro, however, Express Pattern can no longer use this new resin.

59. Express Pattern has expressed to Desotech its desire to continue to purchase Somos resins from Desotech and to enter into a new resin purchase contract upon expiration of the current contract.

#### **DYNACEPT**

60. In a May 31, 2007 email from Abe Reichental, President and CEO of 3D Systems Corporation and 3D Systems, Inc., to Jim Reitz, Business Group Manager for Desotech's Somos business, Reichental informed Reitz that, under 3DS's view, the installation of Somos resins into the Viper Pro owned by customer Dynacept Company, Inc., would violate 3DS's intellectual property rights.

61. In a June 4, 2007 email from Lee Dockstader, Vice President of 3DS, to David Yarnell, Director of Rapid Prototyping at Dynacept, Dockstader warned Yarnell that using Somos resins in the Viper Pro would cause its software to "time bomb out" and make the machine inoperable, in addition to voiding the machine's warranty.



62. In a June 6, 2007 phone conversation between Mark Primavera at Dynacept and Charlie Kaufmann, Senior Account Manager at Desotech, Primavera complained about the pressure 3DS was exerting on Dynacept to switch from Desotech's Somos resins to 3DS's resins. Primavera also told Kaufman that Desotech's Somos ProtoGen™ O-XT 18420 resin was running much better than 3DS's resin in the Viper Pro. After only two days of running the Viper Pro with Somos 18420 resin, David Yarnell stated that "ProtoGen's faster photospeed and lower shrink is allowing our technicians to run the machine at maximum speed and power" – thereby allowing Dynacept to deliver highly accurate parts with large frame capabilities.

63. In August 2007, Dynacept's Viper Pro stopped working due to equipment issues. When Dynacept contacted 3DS to service the machine, 3DS informed Dynacept that it would not service the machine if Dynacept continued to use non-approved Somos resins.

**FURTHER ANTICOMPETITIVE CONDUCT BY 3DS**

64. In an attempt to force customers toward the Viper Pro, 3DS has refused to provide technical support for some older, large-frame machines, which do not have the RFID feature.

65. In mid-2007, Lockheed Martin informed 3DS that one of its SLA 500 machines used in wind tunnel testing stopped working due to problems with its laser. Lockheed had been using Desotech resins in the machine for years without any problems.

66. After a significant amount of pressure by 3DS, including 3DS's refusal to sell the Viper Pro machine to Lockheed unless Lockheed agreed to purchase resins exclusively from 3DS and to stop purchasing resins from Desotech, Lockheed agreed to purchase a Viper Pro to replace its SLA 500 machine.

67. Lockheed has informed Desotech that it is disappointed with the quality of its Viper Pro and with the 3DS resins it is required to use in the machine. Lockheed has stated that

it would prefer to use Desotech's Somos 12120 resin in its Viper Pro rather than being required by 3DS to use 3DS's resins. In particular, Lockheed has complained to Desotech that 3DS's SI-48 resin has insufficient accuracy, with particularly bad "differential shrink," which is different dimensional changes based on the thickness of the part.

68. In March 2007, Tangible Express, a Utah-based service bureau, contracted with 3DS for the purchase of six dual-vat Viper Pro machines, following 3D System, Inc.'s offer to sell the Viper Pro machines to Tangible Express. As part of that transaction, Tangible Express and 3D Systems Corporation executed a Proposal and Agreement and a Memorandum of Understanding. The Memorandum of Understanding expressly required Tangible Express to purchase all of its resin for the six Viper Pro machines directly from 3DS.

69. In August 2007, Desotech had an oral commitment from AP Proto ("APP"), a potential customer and large service bureau in Tulsa, Oklahoma, for nearly 100% of APP's SL resin requirements. After Desotech had not heard from APP for several weeks, Desotech reached out to APP and was informed that APP recently completed a deal in which 3DS would supply 100% of APP's resin requirements.

70. As part of the deal between APP and 3DS, 3DS required APP to trade-in an older SL machine for a Viper Pro and to purchase its resins exclusively from 3DS rather than Desotech.

71. As alleged above, 3DS has attempted to extinguish the market for older large-frame SL machines by reaching an agreement with National RP Support, an SL maintenance contractor, requiring it to cease servicing and refurbishing all SLA 500 machines not currently covered by an existing maintenance contract. 3DS has also offered substantial incentives for customers to trade-in their older large-frame machines for new Viper Pro machines with the

RFID feature. Moreover, 3DS has required National RP Support to buy all parts through 3DS, thereby raising prices for older, larger-frame SL machines.

72. In February 2008, in response to a request from a Desotech customer who wanted to know whether National RP would service its Viper Pro if it installed Somos resins, Dennis Fogle of National RP informed John Schaefer of Desotech that he “made a verbal agreement with 3D[S] that if [3DS] won’t support [a Viper Pro using Somos resins], neither will [National RP].”

73. 3DS’s anticompetitive conduct also has substantially narrowed the selection of resin available to customers. By limiting Viper Pro customers to 3DS’s resin and only *two* older Somos resins, customers who were accustomed to having over *forty* resins to choose from now only have a few choices, thereby negatively impacting their ability to offer their own customers a broader array of end-products.

#### **AFFECTED COMMERCE**

74. As alleged above, the United States resin market for large-frame SL machines is approximately \$20 million annually.

75. Due to 3DS’s anticompetitive conduct, Desotech alone has already lost approximately \$500,000 in sales. As the base of customers using Viper Pro machine with the RFID feature continues to grow due to 3DS’s anticompetitive conduct, the amount of lost sales experienced by Desotech and other resin suppliers will increase.

76. 3DS sells 20-30 new Viper Pro machines per year, with each single-vat machine having a capacity of about 500 kg of resin per year. By being foreclosed from the SL resin market for Viper Pro machines, Desotech and other resin suppliers will also lose a substantial portion of these future sales, from both existing and potential customers. Moreover, the loss of

resin business for large-frame SL machines also makes it unattractive to develop new resins and service small-frame customers.

77. 3DS's anticompetitive behavior, in addition to causing direct injury to Desotech, will substantially lessen competition in the entire large-frame SL resin market. 3DS's tactics have already foreclosed a substantial portion of the large-frame SL resin market and have the potential to foreclose even more competition in the large-frame SL resin market, similar to the monopoly position 3DS currently possesses in the large-frame SL machine market. Such substantial foreclosure not only affects existing competition, but also strongly discourages innovation in the development of new resin. It also dissuades potential new entrants from entering the large-frame SL resin market.

78. By foreclosing competition in the large-frame SL resin market and limiting sales only to those resins offered by 3DS, purchasers of large-frame SL machines will no longer have a choice of suppliers from whom to purchase resin and will have a substantially smaller selection of resins from which to make their end products. Given the lack of viable substitutes and unlikelihood of new entrants, 3DS will be able to raise prices and restrict output, thereby harming overall consumer welfare.

**COUNT I –  
§ 1 SHERMAN ACT (TYING)**

79. Desotech incorporates and realleges, as though fully set forth herein, paragraphs 1-78 of this Complaint.

80. 3DS's conduct in conditioning the sale and/or maintenance of its large-frame SL machines on the purchase of its own SL resins constitutes an illegal tying agreement and is a *per se* violation of § 1 of the Sherman Act, 15. U.S.C. § 1, or, in the alternative, is unlawful under the rule of reason, in that any purported pro-competitive justification for the tie is substantially

outweighed by the anticompetitive effects in the SL resin market. Moreover, any purported pro-competitive justification can be achieved through alternative means less restrictive of competition.

81. The relevant geographic market is the United States.

82. Large-frame SL machines (*i.e.*, the tying product) and resins for those machines (*i.e.*, the tied product) constitute separate and distinct products. Customers demand the two products separately and 3DS has itself sold the two products separately for years.

83. 3DS has coerced and forced purchasers of its large-frame SL machines to purchase 3DS's own resins rather than the resins of competing resin suppliers, thereby restraining free competition in the market for resin for large-frame SL machines and eliminating the customer's ability to choose its own supplier of large-frame SL resin.

84. 3DS maintains sufficient market power – the ability to raise prices above those charged in a competitive market or to exclude competition – in the market for large-frame SL machines given its patent and other intellectual property related protections, among other factors.

85. 3DS's tying behavior has had, and will continue to have, substantial anticompetitive effects in the market for large-frame SL resins, and will substantially foreclose the large-frame SL resin market to all other large-frame SL resin suppliers. By substantially foreclosing the large-frame SL resin market to competition, 3DS can unilaterally raise prices and reduce output, thereby significantly harming consumer welfare.

86. 3DS has an economic interest in the sales of resin for large-frame SL machines.

87. A substantial amount of interstate commerce has been affected, and will continue to be affected, in the market for large-frame SL resin due to 3DS's tying conduct.

88. As a direct and proximate result of 3DS's tying conduct, Desotech has suffered, and will continue to suffer, substantial injury, both with existing and potential customers.

**COUNT II –  
§ 3 CLAYTON ACT (TYING)**

89. Desotech incorporates and realleges, as though fully set forth herein, paragraphs 1-86 of this Complaint.

90. As alleged above, 3DS conditions the sale and/or maintenance of its large-frame SL machines on the purchase of its own SL resins, in violation of § 3 of the Clayton Act, 15 U.S.C. § 14. The effect of this tie has been to substantially lessen competition in the market for large-frame SL resin in the United States.

91. A substantial amount of interstate commerce has been affected, and will continue to be affected, in the market for large-frame SL resin due to 3DS's tying conduct.

92. As a direct and proximate result of 3DS's tying conduct, Desotech has suffered, and will continue to suffer, substantial injury, both with existing and potential customers.

**COUNT III –  
§ 1 SHERMAN ACT (UNREASONABLE RESTRAINT OF TRADE)**

93. Desotech incorporates and realleges, as though fully set forth herein, paragraphs 1-78 of this Complaint.

94. In addition to 3DS conditioning the sale and/or maintenance of its large-frame SL machines on the purchase of its own SL resins, as alleged above, 3DS's conduct in contracting and licensing with its customers constitutes an unreasonable restraint of trade and commerce, in violation of § 1 of the Sherman Act, 15 U.S.C. § 1. In particular, 3DS's unilateral declaration that all machine warranties are void if a customer does not purchase its resins from 3DS and its

failure to service a large-frame SL machine until a customer switches its resin orders to 3DS constitute an unreasonable restraint of trade.

95. The contracts and licenses between 3DS and its customers constitute concerted action.

96. A substantial amount of interstate commerce has been affected, and will continue to be affected, in the market for large-frame SL resin due to this unreasonable restraint of trade resulting from 3DS's contracting and licensing practices.

97. As a direct and proximate result of 3DS's conduct, Desotech has suffered, and will continue to suffer, substantial injury, both with existing and potential customers.

**COUNT IV –  
§ 2 SHERMAN ACT (ATTEMPTED MONOPOLIZATION)**

98. Desotech incorporates and realleges, as though fully set forth herein, paragraphs 1-78 of this Complaint.

99. The relevant product markets are large-frame SL machines and the resin used in those machines.

100. The relevant geographic market is the United States.

101. 3DS possesses monopoly power in the market for large-frame SL machines given its patent and other intellectual property related protections, among other factors. No other competing provider of large-frame SL machines currently exists in the United States.

102. As alleged above, 3DS has engaged in predatory and anticompetitive behavior by conditioning the sale and/or maintenance of its large-frame SL machines on the purchase of its own SL resins, as well as by its conduct in contracting and licensing with its customers.

103. The specific intent of 3DS in engaging in this behavior is to monopolize the market for resin used in large-frame SL machines.

104. Given 3DS's current monopoly position in the market for large-frame SL machines, and its present and growing control over approximately 50% of the market for large-frame SL resin, there is a dangerous probability of 3DS achieving monopoly power in the market for resin used in large-frame SL machines.

105. A substantial amount of interstate commerce has been affected, and will continue to be affected, in the market for resin for large-frame SL machines due to 3DS's attempt to monopolize that market.

106. As a direct and proximate result of 3DS's conduct, Desotech has suffered, and will continue to suffer, substantial injury, both with existing and potential customers.

**COUNT V –  
ILLINOIS ANTITRUST ACT**

107. Desotech incorporates and realleges, as though fully set forth herein, paragraphs 1-86, 90, 94-95, and 99-104 of this Complaint.

108. As alleged above in Counts I-IV, 3DS's conduct constitutes tying, unreasonable restraint of trade, and attempted monopolization, all of which are *per se* violations of 740 ILCS 10/3, or in the alternative, violations of 740 ILCS 10/3 under the rule of reason.

109. A substantial portion of 3DS's behavior constituting the violations alleged above occurred in the State of Illinois and has had a substantial impact on trade or commerce within the State of Illinois.

110. As a direct and proximate result of 3DS's conduct, Desotech has suffered, and will continue to suffer, substantial injury, with existing and potential customers in the State of Illinois.

**COUNT VI –  
ILLINOIS UNIFORM DECEPTIVE TRADE PRACTICES ACT**



111. Desotech incorporates and realleges, as though fully set forth herein, paragraphs 1-78 of this Complaint.

112. As alleged above, in violation of 815 ILCS 510/2(a)(7), 3DS has willfully represented to customers that Desotech's Somos resins are of a particular standard, quality, or grade, namely that they are not "licensed" or "qualified" on the Viper Pro even though no such licensing or qualification standard exists and customers have repeatedly used Somos resins in their Viper Pro without any problems.

113. As alleged above, in violation of 815 ILCS 510/2(a)(8), 3DS has willfully disparaged Desotech's Somos resins to customers by falsely or misleadingly representing that they are not "licensed" or "qualified" on the on the Viper Pro even though no such licensing or qualification standard exists and customers have repeatedly used Somos resins in their Viper Pro without any problems. 3DS has also made additional statements to customers disparaging the quality of Desotech's Somos resins.

114. Express Pattern paid a premium for its Viper Pro machine in return for the right to use non-3DS resins in the machine. 3DS has since informed Express Pattern that it no longer may use the newer Desotech Somos resins that Express Pattern prefers.

115. A substantial portion of 3DS's behavior constituting the violations alleged above occurred in the State of Illinois and has had a substantial impact on trade or commerce within the State of Illinois.

116. As a direct and proximate result of 3DS's conduct, Desotech has suffered, and will continue to suffer, substantial injury, with existing and potential customers in the State of Illinois.

**COUNT VII –  
TORTIOUS INTERFERENCE WITH PROSPECTIVE ECONOMIC ADVANTAGE**

117. Desotech incorporates and realleges, as though fully set forth herein, paragraphs 1-78 of this Complaint.

118. As alleged above, as part of Desotech's continuing efforts to expand its business and customer base, Desotech has valid business relationships and/or expectancies of such with purchasers of resins for large-frame SL machines, including Express Pattern.

119. 3DS has knowledge of these relationships and/or expectancies of such and has intentionally interfered with them causing a termination of the relationships and/or expectancies. In particular, by conditioning the sale and/or maintenance of its large-frame SL machines on the purchase of its own SL resins, 3DS has unlawfully forced customers who would otherwise have purchased their resin from Desotech to purchase their resin instead from 3DS.

120. A substantial portion of 3DS's behavior constituting the violations alleged above occurred in the State of Illinois and has had a substantial impact on trade or commerce within the State of Illinois.

121. As a direct and proximate result of 3DS's conduct, Desotech has suffered, and will continue to suffer, substantial injury with existing and potential customers in the State of Illinois.

#### **COUNT VIII – PATENT INFRINGEMENT**

122. Desotech incorporates and realleges, as though fully set forth herein, paragraphs 1-78 of this Complaint.

123. On January 22, 2002, United States Letters Patent 6,340,297 (hereinafter the "'297 patent") entitled Solid Imaging Apparatus With Coating Station was duly and legally issued to DSM N.V. By way of a chain of assignments, ownership of the '297 patent was

transferred to Desotech with full rights to sue for current and past infringement. A copy of the '297 patent is attached as Exhibit A to this Complaint.

124. On May 11, 2004, United States Letters Patent 6,733,267 (hereinafter the "'267 patent") entitled Solid Imaging Apparatus And Method With Coating Station was duly and legally issued to DSM Desotech Inc. A copy of the '267 patent is attached as Exhibit B to this Complaint.

125. Desotech and its predecessor owners in the chain of ownership of the '297 and '267 patents have complied with the marking requirements of 35 U.S.C. § 287, and Desotech is entitled to damages for patent infringement that have occurred subsequent to issuance of the '297 and '267 patents within the time limit provided for by 35 U.S.C. § 286.

126. 3DS has infringed and is infringing the '297 and '267 patents by offering for sale and selling SL equipment, including at least the Viper Pro, SLA 7000 and SLA 5000 apparatuses in this District and, based on information and belief, will continue to do so unless enjoined by this Court.

127. 3DS has: (1) infringed the '297 patent and the '267 patent; (2) actively induced infringement of the '297 patent and the '267 patent by offering for sale and selling at least the identified SL equipment to customers which have then been used by such customers within the scope of the claims of the '297 patent and the '267 patent; and (3) committed acts of contributory infringement of the '297 patent and the '267 patent by offering for sale and selling at least the identified SL equipment to customers which have then been used by such customers within the scope of the claims of the '297 patent and the '267 patent.

128. Defendant's infringements, inducements to infringe, and contributory infringements of the '297 patent and the '267 patent were and are willful and with full

knowledge of said Letters Patent, thereby rendering this case exceptional within the meaning of 35 U.S.C. § 285.

129. By its unlawful infringement of the '297 patent and the '267 patent, 3DS has caused, is causing, and, unless such acts and practices are restrained and enjoined by this Court, will continue to cause immediate and irreparable harm to Desotech for which there is no adequate remedy at law, and for which Desotech is entitled to final injunctive relief under 35 U.S.C. § 283. 3DS irreparably injures Desotech each and every day that its unlawful marketing and sales continue in violation of Desotech's exclusive property rights.

130. As a direct and proximate consequence of 3DS's unlawful infringement of the '297 patent and the '267 patent, Desotech has been, is being and, until such acts and practices are enjoined by this Court, will continue to be damaged in its business and property, for which Desotech is entitled to compensatory and treble damage relief under 35 U.S.C. § 284.

### **JURY DEMAND**

Pursuant to Fed. R. Civ. P. 38, Desotech demands a jury on all issues so triable.

### **PRAYER FOR RELIEF**

WHEREFORE, Desotech prays that this Court:

- A. Enter a judgment that 3DS has violated § 1 and § 2 of the Sherman Act, § 3 of the Clayton Act, 740 ILCS 10/3, and 815 ILCS 510/2(a);
- B. Enter a judgment that 3DS has tortiously interfered with Desotech's prospective economic advantage(s);
- C. Enter a judgment that 3DS has infringed United States Letters Patent 6,340,297;
- D. Enter a judgment that 3DS has infringed United States Letters Patent 6,733,267;
- E. Award Desotech treble damages and its costs associated with this action, including attorneys' fees, under § 4 of the Clayton Act and 740 ILCS 10/7(2);

- F. Award Desotech its costs and attorneys' fees under 815 ILCS 510/3;
- G. Award Desotech, on its tort claim, all actual damages, including consequential and incidental damages, as well as punitive damages;
- H. Award Desotech damages, interest and costs pursuant to 35 U.S.C. § 284 for 3DS's patent infringement;
- I. Award Desotech on its patent infringement claim enhanced damages and its attorneys' fees pursuant to 35 U.S.C. §§ 284 and 285;
- J. Enjoin 3DS from engaging in the anticompetitive, deceptive, and tortious conduct alleged herein;
- K. Enjoin 3DS from engaging in the infringing conduct alleged herein;
- L. All such other and further relief that this Court deems just and proper.

Dated: May 25, 2008

Respectfully submitted,

By: /s/ Britt M. Miller

Bruce M. Gagala  
Jeffrey B. Burgan  
LEYDIG, VOIT & MAYER, LTD.  
Two Prudential Plaza, Suite 4900  
180 North Stetson Avenue  
Chicago, Illinois 60601  
(312) 616-5600  
(312) 616-5700 – fax

Andrew S. Marovitz  
Britt M. Miller  
Thomas V. Panoff  
MAYER BROWN LLP  
71 South Wacker Drive  
Chicago, Illinois 60606  
(312) 782-0600  
(312) 701-7711 – fax

**CERTIFICATE OF SERVICE**

I, Britt M. Miller, an attorney, hereby certify that on May 25, 2008, I caused a true and correct copy of the foregoing **AMENDED COMPLAINT**, to be filed electronically and served electronically. Notice of this filing will be sent by e-mail to all parties by operation of the court's electronic filing system or by mail to anyone unable to accept electronic filing as indicated on the Notice of Electronic Filing. Parties may access this filing through the court's CM/ECF System.

\_\_\_\_\_/s/ Britt M. Miller\_\_\_\_\_  
Britt M. Miller  
MAYER BROWN LLP  
71 South Wacker Drive  
Chicago, IL 60606  
Phone: (312) 782-0600  
Fax: (312) 701-7711  
E-mail: bmill@mayerbrown.com